Amendments to the Claims:

1. (currently amended) A method of ~~detecting a data structure of~~ processing recovered data in an optical storage device, the method comprising:

~~(a)~~ providing a first 8-bit register connected between an eight-to-fourteen modulator and a leading zero counter;

~~(b)~~ storing ~~the~~ 8 least significant bits of data output from the eight-to-fourteen modulator in the first 8-bit register; ~~and~~

~~(c)~~ calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter; and

generating merging bits according to the number of leading zeros to thereby keep an average potential of the bits of data output from the eight-to-fourteen modulator near a DC potential.

2. (currently amended) The method of claim 1 ~~wherein step (c)~~ further ~~comprises~~ comprising:

detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

3. (currently amended) The method of claim 1 further comprising:

~~(d)~~ providing a second 8-bit register connected between the eight-to-fourteen modulator and a trailing zero counter;

~~(e)~~ storing ~~the~~ 8 most significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and

~~(f)~~ calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter.

4. (currently amended) The method of claim 3 ~~wherein step (f)~~ further ~~comprises~~ comprising:

detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

5. (currently amended) The method of claim 1 further comprising:

~~(d)~~ connecting the first 8-bit register between the eight-to-fourteen modulator and a trailing zero counter;

~~(e)~~ storing ~~the~~ 8 most significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and

~~(f)~~ calculating a number of trailing zeros stored in the first 8-bit register with the trailing zero counter.

6. (currently amended) The method of claim 5 ~~wherein step (f)~~ further ~~comprises~~ comprising:

detecting the number of trailing zeros of the most significant bits stored in the first 8-bit register, if the most significant bits stored in the first 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

7. (currently amended) A method of processing recovered data ~~detecting a data structure of data~~ in an optical storage device, the method comprising:

~~(a)~~ providing a second 8-bit register connected between an eight-to-fourteen modulator and a trailing zero counter;

~~(b)~~ storing ~~the~~ 8 most significant bits of data output from the eight-to-fourteen

modulator in the second 8-bit register; ~~and~~

~~(c)~~ calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter; and

generating merging bits according to the number of trailing zeros to thereby keep an average potential of the bits of data output from the eight-to-fourteen modulator near a DC potential.

8. (currently amended) The method of claim 7 ~~wherein step (c)~~ further ~~comprises~~ comprising:

detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the second 8-bit register.

9. (currently amended) The method of claim 7 further comprising:

~~(d)~~ providing a first 8-bit register connected between the eight-to-fourteen modulator and a leading zero counter;

~~(e)~~ storing ~~the~~ 8 least significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and

~~(f)~~ calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter.

10. (currently amended) The method of claim 9 ~~wherein step (f)~~ further ~~comprises~~ comprising:

detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

11. (currently amended) The method of claim 7 further comprising:

~~(d)~~ connecting the second 8-bit register between the eight-to-fourteen modulator and a leading zero counter;

~~(e)~~ storing ~~the~~ 8 least significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and

~~(f)~~ calculating a number of leading zeros stored in the second 8-bit register with the leading zero counter.

12. (currently amended) The method of claim 11 ~~wherein step (f)~~ further ~~comprises~~ comprising:

detecting the number of leading zeros of the least significant bits stored in the second 8-bit register, if the least significant bits stored in the second 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the second 8-bit register.

13. (new) An optical storage device for processing recovered data comprising:

an eight-to-fourteen modulator;

a first 8-bit register connected to the eight-to-fourteen modulator for storing 8 least significant bits of data output from the eight-to-fourteen modulator; and

a leading zero counter connected to the first 8-bit register for calculating a number of leading zeros stored in the first 8-bit register;

wherein the optical storage device is for generating merging bits according to the number of leading zeros to thereby keep an average potential of the bits of data output from the eight-to-fourteen modulator near a DC potential.

14. (new) The optical storage device of claim 13 wherein the leading zero counter is further for detecting the number of leading zeros of the least significant bits stored in the

first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further for detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

15. (new) The optical storage device of claim 13 further comprising:

a second 8-bit register connected to the eight-to-fourteen modulator for storing 8 most significant bits of the data output from the eight-to-fourteen modulator; and

a trailing zero counter connected to the second 8-bit register for calculating a number of trailing zeros stored in the second 8-bit register.

16. (new) The optical storage device of claim 15 wherein the trailing zero counter is further for detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further for detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

17. (new) The optical storage device of claim 13 further comprising:

a trailing zero counter connected to the first 8-bit register, the first 8-bit register for storing 8 most significant bits of the data output from the eight-to-fourteen modulator, and the trailing zero counter for calculating a number of trailing zeros stored in the first 8-bit register.

18. (new) The optical storage device of claim 17 wherein the trailing zero counter is further for detecting the number of trailing zeros of the most significant bits stored in the first 8-bit register, if the most significant bits stored in the first 8-bit register are zeros; and further for detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

19. (new) An optical storage device for processing recovered data comprising:
an eight-to-fourteen modulator;
a second 8-bit register coupled to the eight-to-fourteen modulator for storing 8 most significant bits of data output from the eight-to-fourteen modulator; and
a trailing zero counter for calculating a number of trailing zeros stored in the second 8-bit register;
wherein the optical storage device is for generating merging bits according to the number of trailing zeros to thereby keep an average potential of the bits of data output from the eight-to-fourteen modulator near a DC potential.

20. (new) The optical storage device of claim 19 wherein the trailing zero counter is further for detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the second 8-bit register.

21. (new) The optical storage device of claim 19 further comprising:
a first 8-bit register connected to the eight-to-fourteen modulator for storing 8 least significant bits of the data output from the eight-to-fourteen modulator; and
a leading zero counter for calculating a number of leading zeros stored in the first 8-bit register.

22. (new) The optical storage device of claim 21 wherein the leading zero counter is further for detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further for detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

23. (new) The optical storage device of claim 19 further comprising:

a leading zero counter connected to the second 8-bit register, the second 8-bit counter for storing 8 least significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register, and the leading zero counter for calculating a number of leading zeros stored in the second 8-bit register.

24. (new) The optical storage device of claim 23 wherein the leading zero counter is further for detecting the number of leading zeros of the least significant bits stored in the second 8-bit register, if the least significant bits stored in the second 8-bit register are zeros; and further for detecting the number of leading zeros of the most significant bits stored in the second 8-bit register.